

REMARKS

The present amendment is in response to the final office action mailed October 18, 2006 in which claims 1,2, 8-12, 17-22, 24-26 28-30 and 37 were finally rejected under 35 USC 103(a) for being obvious over Campagnolo (USP 4,788,040) alone, or in view of any one of Fukuda (USP 4,038,366), Kane (USP 4,254,291), Simon (USP 4,839,209) and Nakamura (USP 5,498,754).

In the final office action, claims 19 and 20 were also rejected under 35 USC 112, 2nd paragraph, on grounds that claim 19 (upon which claim 20 depends) failed to further limit independent claim 1.

Amendments to the Claims

Independent claims 1, 34 (claim 34 remains withdrawn) and 37 each have been amended to recite that the border of the tray is provided with lugs. This feature is described on the last two lines of page 17 of the original application, and can be seen in the embodiments shown in Figs. 11-14. The lugs, i.e., projections, are used to install the column tray, with its corrosion-resistant coating and/or corrosion-resistant covering, in a column without welding. An embodiment of this arrangement is seen in Fig. 10 of the present application, where the tray 1 is secured between two outer wall sections, 2, 3 of a column, a first outer wall section 2 above the tray 1, and a second outer wall section 3 below the tray 1.

Claim 19 has been amended so that it now further limits claim 1. Therefore, the rejection of claims 19 and 20 is believed to have been overcome.

Rejection over the Prior art

It is submitted that amended independent claims 1, 34 and 37 all define over the prior art.

(1) USP 4,788,040 (Campagnolo et al.) (Primary Reference)

Campagnolo clearly does not disclose lugs on the border of the column tray, either in the specification or in the figures. As seen in Campagnolo's Figs 5 and 6, neither the "upper distributor tray 56", nor the "lower distributor tray 66" is provided with lugs. As seen in Fig. 2 of

Campagnolo, and as described at col. 5, lines 5-7, the “upper distributor tray 56 is mounted to the walls of shell 24 in a conventional manner”.¹ (emphasis added). It is submitted that the “conventional” manner of securing such a tray to the sides of a column (or “shell”) is by welding. Since Campagnolo employs trays which are mounted in the conventional manner (i.e., by welding), Campagnolo’s trays cannot have a border provided with lugs, since such lugs would interfere with inserting the trays into the tubular column for positioning and welding. Accordingly, it is submitted that one skilled in the art, upon viewing Campagnolo, would not be inclined to modify either tray 56 or 66 to have a border provided with lugs to thereby arrive at the invention presently recited in amended independent claims 1, 34 and 37.

In addition, and contrary to the Examiner’s argument, it is submitted that one skilled in the art simply would not provided a Campagnolo tray with a corrosion-resistant coating and/or a corrosion-resistant covering. This is because Campagnolo teaches welding items to the tray, and one skilled in the art would know that a tray having a corrosion-resistant coating and/or a corrosion-resistant covering is unsuitable for welding. In this regard, Campagnolo ‘040 specifies a number of times that welding is required:

At Column 5, lines 52 to 55, the ‘040 reference states: “... All of the risers 60 and 62 are mounted in a conventional manner within the upper and lower distributor trays such as welding the members in position ...”

At Column 6, lines 9 to 11, the ‘040 reference states: “... a conventional type of tack filet weld 88 is shown to hold the nut 86 in closed position. ...”

At Column 9, lines 5 to 8, the ‘040 reference states: “... the vapor passage means in the upper distributor tray are welded in position, ... and risers in the lower distributor tray are welded in position.”

In view of Campagnolo’s teaching of welding the tray, it is submitted that one skilled in the art would not modify a Campagnolo tray 56, 66 to have a corrosion-resistant coating and/or a corrosion-resistant covering.

¹ The ‘040 reference does not specifically mention how the “lower distributor tray 66” is secured to the “shell 24”. However, in view of the similar general footprint (Figs. 5 and 6) and similar arrangement relative to shell 24 (Fig. 2), it can be inferred that the “lower distributor tray 66” is secured to the shell 24 in the same manner as the “upper distributor tray 56”, i.e., by the conventional manner of welding.

In the October 18, 2006 office action, the Examiner points to a number of secondary references. However, none of these disclose a tray having a border provided with lugs, either.

(2) USP 4,038,366 (Fukuda et al.)

This reference, entitled “Method for Removing Hydrogen Sulfide” appears to be non-analogous art. In any event, it does not depict or discuss a tray having lugs.

(3) USP 4,254,291 (Kane)

This reference, entitled “Allylic Rearrangement Process”, appears to be non-analogous art. In any case, it does not depict or discuss a tray having lugs.

(4) USP 4,839,209 (Simon)

This reference, which is entitled “Sheet-Shaped, Corrosion-Resistant Parts of Apparatus” discloses a “bubble tray 1”. Figs. 1 and 2 of this reference depicts an embodiment of the bubble tray. However, it can also be seen from these figures that the bubble tray is not provided with lugs.

Furthermore, in citing this reference, the Examiner referred to column 1, lines 5 to 60. However, at column 1, lines 28 to 33, this reference clearly states that the “metal constructions plated with synthetic resins.....have (certain disadvantages)”. Thus, contrary to the Examiner’s assertion, this reference, too, teaches away from a metal tray with corrosion resistant coating. In fact, at col. 1, lines 61 et seq., the Simon ‘200 reference clearly states that synthetic resins are to be used, that “these synthetic resins have a considerably higher chemical resistance than, for example, weight-bearing constructions of steel... “. Thus, the Simon ‘209 reference clearly teaches away from a steel construction, as recited in independent claims 1, 34 and 37. Accordingly, it is submitted that (a) one skilled in the art would not modify Campagnolo ‘040 as taught by Simon ‘209 and (b) only by hindsight could one arrive at such a combination.

(5) USP 5,498,754 (Nakamura)

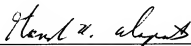
This reference, entitled "Process For Refining Crude Fluoroalkylsulfonic Acid With The Use Of Water Allylic Rearrangement Process", appears to be non-analogous art. It, too it does not depict or discuss a tray having lugs.

In view of all of the foregoing, it is submitted that the pending claims 1, 34 and 37 are allowable over the cited prior art. With respect to all claims not specifically mentioned, it is submitted that these are patentable not only by virtue of their dependency on their respective base claims and any intervening claims, but also for the totality of features recited therein.

Reconsideration of the application is requested. An early notice of allowance is requested so that the application may proceed to issue.

A separate Request for Continued Examination is being concurrently filed.

Respectfully submitted,



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